
Subject: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Scaper](#) on Sat, 12 Sep 2009 01:05:07 GMT

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I've been looking around for line array examples that use oval drivers. Something like 4"x6" or 3"x5" units.

Would these shapes have any detrimental effects on the array? Or could it possibly help by keeping the center to center spacing closer together?

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Marlboro](#) on Sat, 12 Sep 2009 02:00:12 GMT

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WHY?

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Scaper](#) on Sat, 12 Sep 2009 03:09:14 GMT

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Do you mean 'why would I want to use them'? If so, it's because I found some cheaper 4"x6" full range drivers. They look pretty good.

Would there be any issues with that size? I'm assuming they'd be fine, but this will be my first venture into the line arrays so I would like to keep it cheap as a trial project.

Marlboro, I saw your line array a few days ago while searching around. It looks very nice.

I appreciate any thoughts you have on the 4"x6" drivers.

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Scaper](#) on Sat, 12 Sep 2009 13:46:00 GMT

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Also, wouldn't the oval shape lead to a higher Active Radiating Factor versus the circular drivers? A 4"x6" oval would be like squashing down a 5" driver.

I'm just guessing here, but isn't that a benefit, like going from a bunch of round tweeters to ribbon? Basically smashing a circle down to get a closer C to C figure.

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Marlboro](#) on Sat, 12 Sep 2009 16:38:50 GMT

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check this out:

<http://newsgroups.derkeiler.com/Archive/Rec/rec.audio.car/2005-07/msg00277.html>

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Scaper](#) on Sun, 13 Sep 2009 02:43:10 GMT

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Thanks for the link, the person writing that article said the lows aren't as good. But going by the others, he's just giving an opinion. Maybe I missed the testing part.

Even if, I'm going to use a line array with sub drivers, so I don't need the lows.

The white paper you have mentioned before talks about using drivers other than round and I didn't see where it said it caused issues. If anything, I thought it helped, like it does with the tweeters.

Can anyone give me any reason why 3x5's would not be the same as 4" drivers or 4x6's versus 5" units? It just seems like they make more sense in a line array because the center to center range is even closer in a vertical array.....and isn't that a good thing?

I'm looking for something to fill up a room next to these subs:

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [SophiaMendoza](#) on Sun, 13 Sep 2009 03:04:27 GMT

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Well..... I say "Go For It!"

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Marlboro](#) on Sun, 13 Sep 2009 23:33:41 GMT

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Why do you need a cheap line array when you have all those giant 10 or 12 inch woofers? And with all of it you are really missing on the tweeter end.

Looks to me like you have too much sound in their already.

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Scaper](#) on Mon, 14 Sep 2009 04:14:06 GMT

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Marlboro wrote on Sun, 13 September 2009 18:33 Why do you need a cheap line array when you have all those giant 10 or 12 inch woofers? And with all of it you are really missing on the tweeter end.

Looks to me like you have too much sound in their already.

I was just hoping to get some info on the oval drivers for line arrays that's all. I was told the members here know a lot about setting them up.

I'm not really sure if you were poking fun at the setup I have or not. I figured your statement would have been "Now I see why you need line arrays to go with all those sub drivers, it would be a perfect match".

Those are 10" subwoofers, they're for the stuff that normal line arrays can't do so well. I realize that 'with all of it' I am missing out on the higher ends. That's why I was asking about the line array.

I'm not sure why you think I have too much sound in there already. Isn't that what most people figure when they see a line array? "You got 150 individual drivers going at once?"

Multiple subs gives you less distortion just like a line array.

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Marlboro](#) on Mon, 14 Sep 2009 18:52:35 GMT

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OK..... all joking aside. I've never quite seen a set up like yours with all those woofers spread all over the place, and with the two MTM's on the side and the MtM center speaker.

I'm having trouble figuring out why you need a line array in the setting. You have not shared any information about why you believe that you need one, what the deficiencies of your current set up are, or anything that would help us line array fanatics to help you with your problem, if you actually have one.

Line arrays as defined by Griffin (and you've obviously read his paper) have several significant characteristics that your current system may not have: 1) listening in the nearfield, 2) very very low

distortion due to large number of speakers covering specific frequency ranges, 3) large sound stage due to coupling of floor with ceiling, 4) large dynamic range due to #2 again.

While you have a lot of available sound, you don't have the amazing listening characteristics of a line array. Your system looks more like something that you would have at a rock concert where the players want to be able to blast into the audience, or what looks obvious for you, a massive home theater display where you are possibly more interested in action movies with lots of explosions, and less interested in playing Schubert's Unfinished Symphony. This is not mean in a demeaning way, only that a line array may not be of any use to you for your large home theater set-up. Line Arrays are not for everybody, and that has nothing to do with building or expense: just that the specific characteristics of them are not essential to everyone's kind of music. Listening to lots of heavy metal requires lots of bass, but not an incredibly distortion-less experience since the music itself is high in distortion.

For me to help, I need way more specifics as to what you want to do, what you need, what you don't need. You may not need a line array, or you may not be able to put one together due to your room or desire to keep all the rest of the system you already have. One of the problems I already see is that knowing where in your room you would put a line array. There isn't enough room unless you pull out everything you currently have redesign the whole system and actually make the screen a bit smaller so you have more room on the sides. Having speakers at all different distances from the listener can play havoc with the sound hearing. Do you really need all of those woofers? Can you balance the woofer sensitivity with the tweeters that you have available. Line arrays only work when they are built from the ground up so that the whole system integrates itself completely. I can't see for the life of me how you could integrate a line of 4 x 6 mid ranges in your current conglomerations of different speaker systems and make it sound integrated..... unless you are not particularly interested in playing music, but only want to produce voice and environmental sound in movies.

You have to help me with this.

Marlboro

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [mayhem13](#) on Tue, 15 Sep 2009 00:50:38 GMT

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The 10" woofers that you see are actually subwoofers with an Fs of 18hz in a sealed configuration. The OP's mains while capable simply can't keep up with the needed dynamic and peak output of a modern HT setup. The OP would most likely be replacing the current mains with arrays, in front of the subwoofer towers. The OP's a pretty not bad DIY designer and has built everything in that space including the awesome NHT mains you see pictured...impeccable detail. I probably shouldn't speak on his behalf but i'm pretty sure i know what he's looking for and that's the peak response and dynamics that line arrays can deliver. Help him out...he'll do ya proud. He's the one who got me thinking arrays and god dammit he's got me back on it as well. If i keep down this path i'm gonna get a divorce for sure!

Subject: Re: What about Oval shaped drivers (like 4"x6") for arrays?

Posted by [Scaper](#) on Tue, 15 Sep 2009 01:05:27 GMT

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I was hoping for help on the initial question before I posted the BASSment photo. It was just a general line array question. Pay no attention to the photo sir.....but if I must tell of the system I have and what I want, then I sure will.

The subwoofer system was designed with the same general idea of why line arrays are enjoyed. Less distortion and no need to crank them up all the way. There are 4 separate enclosures and I can run the 2 vertical ones, or the 2 horizontal ones, or all at the same time. They're very "musical" subs that were used in the NHT VT-3 system.

Anyway, I won't be running the mains you see in that photo if/when I build some arrays. Plus, I'm not sure the line arrays will even be used in that room. But I'd still love to build a pair because I've heard mostly good reports about them.

Being that this would be my first try at a line array, I wanted to go with cheaper drivers. I came across some decent looking 3"x5" drivers with a response of 90-16,000hz. They seem very promising. But I just wasn't sure if the oval style would lend itself better to a line array. It seems that it would actually be better going by the white paper, but I don't know.

You could keep the C to C spacing less than a 4" driver, yet you would have a 5" width.....things would be more linear I would think.

So, not considering that room I posted. Would the oval shape be okay to use? If so, would the typical crossover point still be figured using the C to C method?

Subject: Ignoring the little man behind the curtain....

Posted by [Marlboro](#) on Tue, 15 Sep 2009 02:39:03 GMT

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OK.... I will ignore the little man behind the curtain.... er, I mean the interesting home theater room...

Don't be putt off my anyone suggesting to you that inexpensive drivers won't work. My own system uses a 3.5 inch driver that was widely sold on the internet for \$3.00. No one knows why Sammi of Korea thought that they could sell their 3 mm xmax little speakers for \$17, but they couldn't and eventually they just unloaded them. I also used a very fine but inexpensive Dayton neo20FA tweeter because I love domes that are not driven hardly at all, and that can have their flanges cut to a C-to-C of about .80 fixing the comb filter distortion at beyond most people's audibility of 16,500hz+.

Suppose you build this? What were you considering for your tweeters? And what is the individual sensitivity of 4 x 6's? You do need to consider the c-to-c between the tweeters and Mids and the

elongation might set that up as a problem horizontally.

Marlboro

Subject: Re: Ignoring the little man behind the curtain....

Posted by [Scaper](#) on Thu, 17 Sep 2009 00:45:30 GMT

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Marlboro, these are the 3"x5" full ranges I bought. Can't beat the price:

<http://www.parts-express.com/pe/showdetl.cfm?Partnumber=269-482>

Now I had a really unusual idea that I would like to get your opinion on. You may dismiss this at first, but give it a little thought before the bashing begins!

What about using this for the high frequencies:

<http://www.parts-express.com/pe/showdetl.cfm?Partnumber=269-484>

This is a very unusual driver. Here's what I am wondering about. Picture those 1"x4" drivers mounted vertically in a column. Maybe 3 full columns obviously touching each other. The entire middle column would be shifted down two inches so that the center aligns with the gap in the first and third column.....sort of like they do brick work.

Going by the white paper, would that not act like ribbon? Basically 3" wide and say 5' tall worth of "tweeters", or maybe 4" wide and 40" tall. Then maybe 24 3x5's running right along side.
